



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

647.1610
Job Sheet 173241



Part No: 647.1610

Job Qty: 10 ea

Part Name: Wiper Deflector Fwd



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/27/18

Job Tracking No:

Due Date: 3/9/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV A SHEET 2 IPP REV:A NEW ISSUE 12/11/01 JFS VERIFY BY: JLM IPP REV:B 13.09.03 now prime at ATG DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	10 Ea	3/1/18	3/1/18	0.00	0.00	Start Up Machining-1		18/03/18
100	Bandsaw	10 pcs	3/1/18	3/1/18	0.00	0.01	Bandsaw1		"
110	CNC Vertical Machining	10 pcs	3/1/18	3/1/18	0.00	16.91	HAAS1-1		"
120	QC	10 pcs	3/1/18	3/1/18	0.00	0.00	QC2 Machining-1		"
130	QC	10 pcs	3/1/18	3/1/18	0.00	0.00	QC8 Machining-1		3/1/18
131	HandFinish	10 pcs	3/2/18	3/2/18	0.00	0.97	HandFinish4		
140	Outsource	10 pcs	3/9/18	3/9/18			ATG001-VC	5.	18/03/18
150	Packaging	10 pcs	3/9/18	3/9/18	0.00	0.00	Packaging2		18/03/18
155	QC	10 pcs	3/9/18	3/9/18	0.00	0.00	QC5		11 APR 17 2018
180	Packaging	10 pcs	3/9/18	3/9/18	0.00	0.00	Packaging3-1		18 APR 18 2018
190	QC21-SA	10 Ea	3/9/18	3/9/18	0.00	0.00	QC21		18/04/18

Part Op 100 - Cut Blank at 6.750"

Descriptions: 110 - 1-Machine per folio FB143 DWG REV: FOLIO REV: 2- deburr and break all sharp edges

120 - QC2- Inspect parts off machine FAI/FAIB

130 - QC8- Inspect parts - second check

131 - CLEAN AND REMOVE ALL PART MARKING

140 - Issue P/O to ATG : 099310 1- Hard Anodize, Color Black and Prime as per Dwg, 647.1600

150 - Receive & Inspect for Damage & Mat'l Certs

155 - QC5- Inspect part completeness to step on W/O

180 - Identify as per dwg & Stock Location: ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***

190 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M7075T6S1.750X2.250	7075-T6 Sheet 1.750" X 2.250"	5.6300 ft (.563 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	M7075T6S1.750X2.250	6	13	0

Part Specifications

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS			
Part No. _____		Rework ☐	Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	
NCR No. _____		Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	
		Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	
Suspected Unapproved ☐		Large Fab ☐					
Date : _____		Step #: _____		QTY Effective : _____			
Description Work Order Deviation							
Root Cause			FAULT C				
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqua. ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Uncle: ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐				
Past Expiry Date ☐	Manufacturing Process ☐						
Misidentified ☐	Past Due ☐	OTHER : _____					

Date: 03/11/18

Inspector: _____

Revision: _____

Serial No/ Batch: S049889

Job No: 173241

Part: 647.1610

Container No: S049889

DART AEROSPACE

1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 813 632-6200
Email: sales@dartaero.com
www.dartaerospace.com

Specifications could not be found.

Plex 2/27/18 11:19 AM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

DART AEROSPACE LTD		Work Order:	173241
Description:		Part Number:	
Inspection Dwg:	Rev:	Page 1 of 1	

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
2.00	± 0.010	2.003	/		vern	mm L-05
2.02	"	2.023	/		"	
R0.020	"	0.020	/		RG	
0.280	"	0.275	/		vern	mm L-05
0.86	"	0.859	/		"	
0.44	"	0.44	/		"	
0.72	"	0.72	/		Height G	31006
4.77	"	4.76	/		"	
1.14	"	1.140	/		"	
0.86	"	0.856	/		vern	mm L-05
0.400	"	0.399	/		"	
1.200	"	1.200	/		"	
136°	$\pm \frac{1}{2}^\circ$	136	/		angle m	cnc-17
6.46	± 0.010	6.450	/		Height G	31006
3.85	"	3.840	/		"	
0.63	"	0.620	/		"	
0.94	"	0.930	/		"	
1.145	± 0.005	1.145	/		"	
0.25	± 0.010	0.252	/		vern	mm L-05
20°	$\pm \frac{1}{2}^\circ$	20°	/		angle M	cnc-17
0.25	± 0.010	0.25	/		RG	
0.500	"	0.500	/		"	
40.7°	$\pm \frac{1}{2}^\circ$	40.7°	/		angle m	cnc-17
4.74	± 0.010	4.730	/		Height G	31006
0.201	± 0.005	0.201	/		vern	mm L-05
3°	$\pm \frac{1}{2}^\circ$	3°	/		angle m	cnc-17
0.201	± 0.005	0.203	/		vern	mm L-05
0.406	± 0.005	0.408	/		"	
0.133	± 0.005	0.132	/		"	

Measured by:	mm L	Checked by:		QC Inspector:	
Date:	18/03/10	Date:		Date:	

Engineering Approval: (if necessary)		Date:	
--	--	--------------	--

Rev	Date	Change	Revised by	Approved
A	14.07.31	New Issue	KJ	

QA: _____ Date: _____



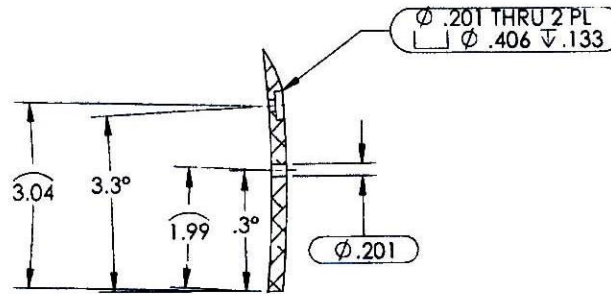
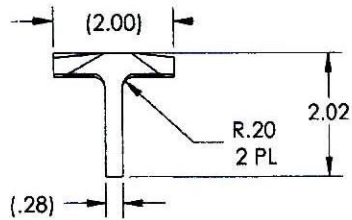
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

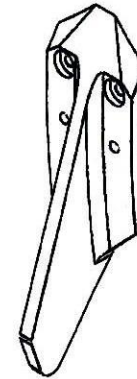
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

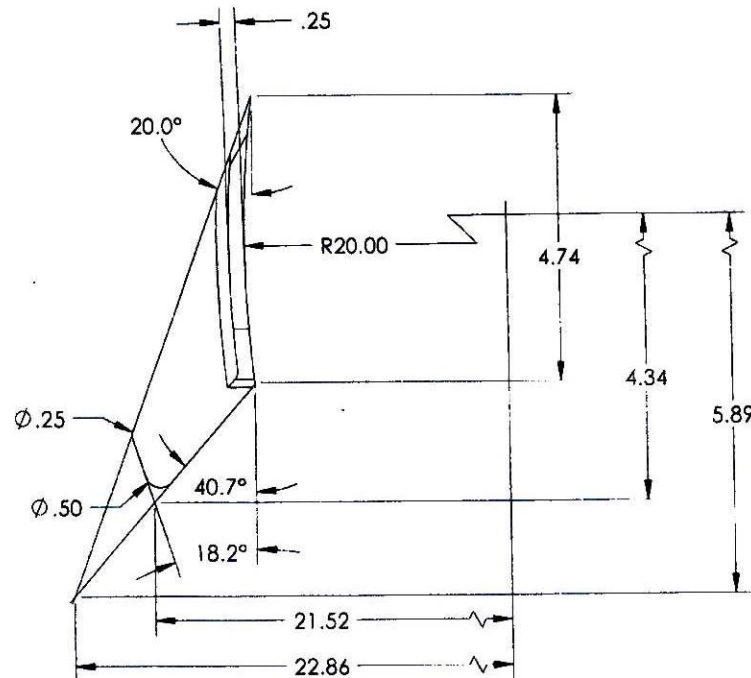
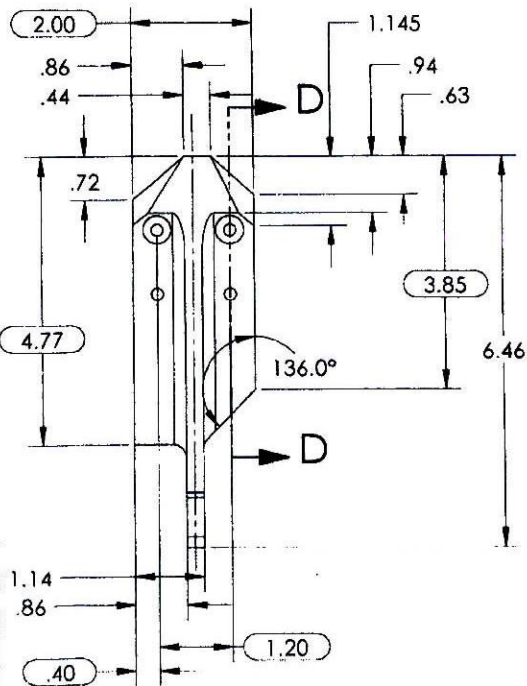
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF
APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT
THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



SECTION D-D



647.1610



ORIGINAL DATE MODIFIED DATE DRAWN BY CHECKED BY DESIGNED BY CONTRACTING		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DECIMALS ARE TO 2 PLACES ANGLES TO 1°		WIPER DEFLECTOR ASSY	
SHEET 2 OF 6		647.1600	
SCALE: NONE		SHEET 2 OF 6	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO039310**

Supplier: ATG001-VC
A.T.G. Industries Inc
731 INDUSTRIELLE ROAD
ROCKLAND
ON
K4K 1T2 Canada
Phone: 613-446-4544
Fax: 613-446-4556

Attention: Lalande, Marc-Andre

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO039310
PO Date: 3/14/18
Due Date: 4/18/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Tsimiklis, ChrisoulaPhone:

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	174097	646.3712	Clip Issue P/O to ATG : _____ Hard Anodize, Color Black and Prime as Per Dwg 646.3712 Rev. A	Firmed	4/18/18	6 pcs	0 pcs	6 pcs	\$7.55/pcs	\$45.30
2	174094	646.3715	Strut Doubler Issue P/O to ATG : _____ Hard Anodize, Color Black and Prime as per Dwg 646.3700	Firmed	4/18/18	12 pcs	0 pcs	12 pcs	\$7.70/pcs	\$92.40
3	170471	646.3716	Gauge Bracket Issue P/O to ATG : _____	Firmed	4/18/18	12 pcs	0 pcs	12 pcs	\$7.60/pcs	\$91.20
4	174092	646.3717	Doubler Issue P/O _____ ATG, black anodize and prime as per dwg 646.3717 Rev. A	Firmed	4/18/18	6 pcs	0 pcs	6 pcs	\$7.70/pcs	\$46.20
5	174091	646.3718	Custom Washer Issue P/O _____ ATG, black anodize and prime as per dwg 646.3718 Rev. A	Firmed	4/18/18	12 pcs	0 pcs	12 pcs	\$5.40/pcs	\$64.80
6	174090	646.3719	Doubler Issue P/O _____ ATG, balck anodize and prime as per dwg 646.3719 Rev. A	Firmed	4/18/18	12 pcs	0 pcs	12 pcs	\$7.70/pcs	\$92.40
7	173241	647.1610	Wiper Deflector Fwd Issue P/O to ATG : _____ 1- Hard Anodize, Color Black and Prime as per Dwg, 647.1600	Firmed	4/18/18	8 pcs	0 pcs	8 pcs	\$12.15/pcs	\$97.20
8	168290	647.1710	Plate Issue P/O to ATG : _____	Firmed	4/18/18	5 pcs	0 pcs	5 pcs	\$31.70/pcs	\$158.50
9		647.1711	Plate Issue P/O to ATG : _____	Firmed	4/18/18	5 pcs	0 pcs	5 pcs	\$31.70/pcs	\$158.50

DAS
11
9-89



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 914947

Date: 16-Apr-18

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Diane Baker
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
		OUR TRUCK	
Quantity	Description		
	Please reference this document's Pack List number on all correspondences regarding this shipment. If you have any questions, please contact us.		
8 ea	Part: 649.5213 Rev: A Doubler Job: 22767 PO: PO039310 Line: 1''		
12 ea	Part: 646.3715 Rev: A Strut Doubler Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22741 PO: PO039310 Line: 2		
8 ea	Part: 647.1610 Rev: A Wiper Deflector Fwd Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22763 PO: PO039310 Line: 7		
CERTIFICATE OF CONFORMANCE A.T.G Industries Inc. certifies that all items in this shipment conform to the requirements. Date: <u>16 April 2018</u> Certified Signature: <u>[Signature]</u> Receiver Signature: _____ A.T.G Industries Inc. is AS9100 Registered and Nadcap Chemical Processing Accredited. Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt. Made in Canada.			